

A one month extension of time to respond to the Office Action is respectfully requested. A Petition for Extension of Time and the appropriate fee are being filed concurrently with this Amendment.

Please amend the application as follows:

In the Specification

Submitted herewith, as requested by the Examiner, is a Substitute Specification. Amendments to the specification are indicated in the attached "Marked Up Version of Amendments" (Exhibit A). No new matter has been added. Entry is respectfully requested.

REMARKS

The Examiner has required a substitute Specification pursuant to 37 C.F.R. 1.125(a). Submitted herewith is a Substitute Specification that has corrections addressing 3(A) through 3(I) and 4 of the Office Action dated August 24, 2001. With respect to 3(C), Applicants point out that the variables  $r_i$ ,  $r_j$ ,  $r_A$ ,  $\alpha$ ,  $\beta$ , and  $\tau$  are defined in Figure 1, and  $P(t)$ ,  $t$ ,  $a$  and  $N_a$  are defined in the text on page 35 of the Substitute Specification. With respect to 3(d), Applicants point out that the term,  $E_h$ , is defined, for example, on page 69, lines 23-25 of the Substitute Specification. Applicants note with respect to 3(E) that the written description of the four different variations of  $G \bullet Eh$  appears on pages 70 and 71 of the Substitute Specification.

Rejection of Claims 23, 25-28, 33 and 59 under 35 U.S.C. § 102(a)

Claims 23, 25-28, 33 and 59 have been rejected under 35 U.S.C. § 102(a) as being anticipated by Tomita-Mitchell *et al.* (*Gene*, 1988. 223:381-391). The cited reference, which was published on November 26, 1998, was published less than one year prior to the filing date of the present Application and thus, appears to fall within the scope of 35 U.S.C. § 102(a) prior art.

A printed publication does not qualify as a 102(a) prior art reference unless it describes the work of another (*In re Katz*, 215 USPQ 14 (CCPA 1982)). As stated in the Declaration of

Inventorship Under Rule 1.32 by Dr. Thilly, submitted herewith, Drs. Tomita-Mitchell, Muniappan, Herrero-Jimenez and Zarbl are not inventors of the claimed invention of the present Application. Thus, the reference of Tomita-Mitchell *et al.* does not describe the work of another, but the inventor's own work. Therefore, the Tomita-Mitchell *et al.* reference is not prior art under 35 U.S.C. § 102(a), and withdrawal of the rejection of Claims 23, 25-28, 33 and 59 is respectfully requested.

Rejection of Claim 60 under 35 U.S.C. § 103(a)

Claim 60 has been rejected under 35 U.S.C. §103(a) as being obvious in light of Tomita-Mitchell *et al.* (*Gene*, 1988. 223:381-391), Khrapko *et al.* (*Nucl. Acids Res.*, 1997. 25:685-693) and Khrapko *et al.* (*Nucl. Acids Res.*, 1994. 22:364-369).

Applicants respectfully disagree. As stated in the Declaration of Inventorship Under Rule 1.32 by Dr. Thilly, submitted herewith, Drs. Tomita-Mitchell, Muniappan, Herrero-Jimenez and Zarbl are not inventors of the claimed invention of the present Application. Thus, the reference of Tomita-Mitchell *et al.* does not describe the work of another, but the inventor's own work. Therefore, the Tomita-Mitchell *et al.* reference does not qualify as prior art under 35 U.S.C. §102(a) or §103.

With the removal of Tomita-Mitchell *et al.* as a prior art reference, the remaining combination of Khrapko *et al.* and Khrapko *et al.* is insufficient to support a rejection of Claim 60 as being obvious in light of the cited references. The two remaining references do not, by themselves, teach each and every element of the claimed invention as they do not teach the identification of harmful alleles by identifying point mutations in old and young populations and comparing the frequencies of said alleles in said populations. Therefore, the references cited do not render the claimed invention obvious under 35 U.S.C. § 103(a), and withdrawal of the rejection of Claim 60 is respectfully requested.

CONCLUSION

In view of the above remarks, the enclosed Substitute Specification, and enclosed Declaration, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (781) 861-6240.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

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